

Appl. No. 10/613,563
Amdt. dated January 4, 2006
Reply to Office action of October 4, 2005

In the Claims:

Claim 1 is amended amended herein. Claims 5 and 6 are canceled.

1. (currently amended) A method for making controlled-release ammonium phosphate fertilizer comprising following steps:
adding release-controlling materials into ammonium phosphate slurry;

mixing evenly the ammonium phosphate slurry and the release-controlling materials into a mixture;

condensing the mixture of the ammonium phosphate slurry and the release-controlling materials until a water-content rate of the mixture reaches ~~25-35%~~ 3~35% (w/w, based on a dry weight of the ammonium phosphate slurry); and

granulating the condensed mixture of the ammonium phosphate slurry and the release-controlling materials to obtain granular controlled-release ammonium phosphate fertilizer.

2. (original) The method as claimed in claim 1, wherein sulfuric acid is further added to the mixture of the ammonium phosphate and the release-controlling material to acidify the mixture before condensing;

wherein the sulfuric acid is 1~20% (w/w, based on the dry weight of the ammonium phosphate slurry).

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3. (original) The method as claimed in claim 1, wherein the release-controlling material is selected from at least one of the group comprising: zeolite, montmorillonite, pillared montmorillonite, and lignin comprising alkali lignin and lignosulfonate or lignosulphonate.

4. (original) The method as claimed in claim 2, wherein the release-controlling material is selected from at least one of the group comprising: acidified zeolite, acidified montmorillonite, acidified pillared montmorillonite, and acidified lignin comprising acidified alkali lignin and acidified lignosulfonate or lignosulphonate.

5. (canceled)

6. (canceled)

7. (original) The method as claimed in claim 1, wherein the granulating methods are selected from the following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

8. (original) The method as claimed in claim 5, wherein the granulating methods are selected from following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

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9. (original) The method as claimed in claim 6, wherein the granulating methods are selected from following methods comprising: slurry granulating, spray granulating, and fluidization granulating.

10. (previously presented) A method for making controlled-release ammonium phosphate fertilizer comprising following steps:

adding release-controlling material and water into ammonium phosphate powder;

mixing evenly the ammonium phosphate powder, the release-controlling material and water into a mixture;

grinding the mixture;

activating the components in the mixture by piling;

drying the activated mixture to achieve the controlled-release ammonium phosphate fertilizer.

11. (previously presented) The method as claimed in claim 10, wherein sulfuric acid is further added into the mixture of the ammonium phosphate and the release controlling material to acidify the mixture before the grinding step;

wherein the sulfuric acid is 1~20% (w/w, based on a weight of the ammonium phosphate powder).

12. (previously presented) The method as claimed in claim 10, wherein the release controlling material is selected from at least one of the group comprising: zeolite, montmorillonite,

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pillared montmorillonite, and lignin comprising alkali lignin and lignosulfonate or lignosulphonate.

13. (original) The method as claimed in claim 10, wherein the release controlling material is selected from at least one of the group comprising: acidified zeolite, acidified montmorillonite, acidified pillared montmorillonite, and acidified lignin comprising acidified alkali lignin and acidified lignosulfonate or lignosulphonate.

14. (original) The method as claimed in claim 12, wherein the release controlling materials are in proportion of 3~35% (w/w, based on a weight of the ammonium phosphate powder) and the water is in proportion of 3~40% (w/w, based on the weight of the ammonium phosphate powder).

15. (original) The method as claimed in claim 13, wherein the release-controlling materials are proportion of 3~35% (w/w, based on a dry weight of the ammonium phosphate powder) and the water is in the proportion of 3~40% (w/w, based on the dry weight of the ammonium phosphate powder).